**S12 – CHEMICAL SCIENCE**

**COURSE OUTLINE**

1. **Properties of materials**

* Investigate the properties of materials and relate the properties of the materials to the use of the material
* Explain the properties of materials in terms of their chemical structure using the metallic, ionic and covalent bonding models.

1. **Elements, atoms and compounds**

* Atomic structure

\* Subatomic particles – electron, neutron, proton

\* Atomic number, mass number

\*structure of the atom

* Elements
* Compounds

\* Metallic bonding

\*Ionic bonding

- Formation of ions

- Ionic compounds

- writing ionic formula

\* Covalent bonding

- Covalent molecules

1. **Chemical reactions**

* Chemical change
* Writing and balancing chemical equations.

1. **Periodic table**

* The periodic table as a way of organising elements
* Trends and patterns within the periodic table

**\*** Metallic /non metallic characteristic

**\*** Chemical reactivity of elements

**\*** Characteristics of groups within the periodic table.

- Halogens, alkali metals, alkaline earth metals, transition metals.

**ASSESSMENT:**

To satisfactorily complete this unit you must:

* Complete all prac work that is conducted and keep a record of this prac work in your prac book
* Complete all set class activities as instructed by the classroom teacher. These activities might include writing answers to questions completing problems, concept maps, posters. A record of these activities will be kept in your workbook, which will be checked at the end of each term.

Your achievement in this unit will be assessed by:

* Assessment of certain practical reports to determine your achievement in the practical component of this unit.
* Tests
* Compiling and maintaining a glossary of chemical terms using internet resources
* Completion of a report showing the link between the properties of materials, their use and their chemical structure.

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